L Number	Hits	Search Text	DB	Time stamp
8	2	("6183735").PN.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/07/15 16:12
14	664	Immortalised SAME epithelial	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/07/15 16:13
26	2	(Immortalised SAME epithelial) and (non-tumorigenically)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/07/15 16:13
32	81	Greenwood NEAR John	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/07/15 16:13
38	4	(Greenwood NEAR John) and epithelial	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/07/15 16:13
-	3	WO NEAR "9306222"	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/07/15 16:06
-	5	WO ADJ "8905345"	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/07/02 12:29
-	1954	endothe$5 SAME (supension or non-aggregat$5 or aggregat$5)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/07/02 13:08
-	587	(endothe$5 SAME (supension or non-aggregat$5 or aggregat$5)) AND (cerebra$5 retina$5)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/07/02 13:02
-	55	((endothe$5 SAME (supension or non-aggregat$5 or aggregat$5)) AND (cerebra$5 retina$5)) and immortal$5	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/07/02 13:08
-	2071	endothe$5 SAME genetic$5	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/07/02 13:08
-	527	(endothe$5 SAME genetic$5) and immortal$5	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/07/02 13:08
-	430	((endothe$5 SAME genetic$5) and immortal$5) and (brain or cerebra$5 or retina$5)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/07/02 13:12
-	4	QUINONERO NEAR Jerome	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/07/02 13:13
-	9	(US-6001350-$ or US-5460959-$).did. or (WO-9306222-$ or WO-8905345-$ or WO-37112-$ or WO-37111-$ or FR-2787463-$).did. or (WO-9611278-$ or EP-391960-$).did.	USPAT; EPO; DERWENT	2003/07/02 13:28
-	4	Genetically WITH single WITH mammalian	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/07/11 15:58
-	1098	Genetically WITH mammalian	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/07/11 16:02

-	0	(Genetically WITH mammalian) and (single SAME cell SAME suspenssion)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/07/11 15:59
-	660	(Genetically WITH mammalian) and (single SAME cell)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/07/11 15:59
-	604	(Genetically WITH mammalian) and suspension	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/07/11 16:00
-	104	(Genetically WITH mammalian) and (single WITH suspension)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/07/11 16:00
-	8	(Genetically WITH lymphocytes).clm.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/07/11 16:05
-	25	(single SAME cell SAME hybridoma).clm.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/07/11 16:06
-	0	(single SAME cell SAME suspenssion).clm.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/07/11 16:07
-	94	(single SAME cell SAME suspension).clm.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/07/11 16:07

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     (FILE 'HOME' ENTERED AT 15:39:31 ON 15 JUL 2003)

     FILE 'MEDLINE, AGRICOLA, CANCERLIT, SCISEARCH, CAPLUS, MEDICONF' ENTERED
     AT 15:39:42 ON 15 JUL 2003
L1        62547 S EPITHEL? (L) (GENETIC? OR TRANSFORM? OR TRANSFECT?)
L2         1947 S L1 AND RETINA?
L3         1122 S L2 AND PY<=1998
L4           28 S L3 AND SKIN
L5           28 FOCUS L4 1-
L6         1122 FOCUS L3 1-
L7          630 S L3 AND (TRANS? (S) RETINA?)
L8          630 FOCUS L7 1-
L9            0 S L7 AND (SINGLE CELL)
L10           3 S L7 AND (SUSPENSION OR AGGREGATE)
L11           2 DUP REM L10 (1 DUPLICATE REMOVED)
L12           7 S L8 AND IMMORTAL?
L13           4 DUP REM L12 (3 DUPLICATES REMOVED)

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L15           0 S L3 AND NON(W)TUMORIGENIC
L16           0 S L3 AND NON-TUMO?

=> d an ti so au ab pi l13 2

L13  ANSWER 2 OF 4  CAPLUS  COPYRIGHT 2003 ACS
AN   1997:717995  CAPLUS
DN   128:1694
TI   Conditionally immortalized retinal cell lines and
     their therapeutic and investigative uses
SO   PCT Int. Appl., 52 pp.
     CODEN: PIXXD2
IN   Greenwood, John; Adamson, Peter; Lund, Raymond
AB   Immortalized retinal endothelial or retinal
     epithelial pigmentary cell lines that can be being implanted in
     the retina and can carry a therapeutic substance to the eye and
     to the central nervous system eye.  Such lines can also be used as a model
     for studying blood central nervous system interfaces.  These lines are
     derived from primary retinal endothelial cells or primary
     retinal epithelial cells and are immortalized
     by transformation with a temp. sensitive allele of a viral
     oncogene, and have the morphol. characteristics and the surface antigens
     of the primary culture from which they were derived.  Retinal
     endothelial and epithelial cell lines were prepd. from rat
     retina by transformation with a temp. sensitive allele
     of the large T antigen gene of SV40.  Implanting these cells into the eyes
     of Sprague-Dawley did not lead to tumor formation or an immune response.
     The cells had the morphol. expected of them in vivo.  In rats with
     retinal dystrophy, implanting cells delayed the loss of
     photoreceptors.
     PATENT NO.        KIND  DATE           APPLICATION NO.  DATE
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PI   WO 9740139         A1   19971030       WO 1997-FR709    19970418 <--
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         RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE
     FR 2747690         A1   19971024       FR 1996-4964     19960419 <--
     FR 2747690         B1   19980612
     CA 2225520         AA   19971030       CA 1997-2225520  19970418 <--
     AU 9727041         A1   19971112       AU 1997-27041    19970418 <--
     AU 725173          B2   20001005
     EP 833895          A1   19980408       EP 1997-920791   19970418 <--
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, FI
     JP 11508142        T2   19990721       JP 1997-537783   19970418
     US 6183735         B1   20010206       US 1998-973553   19980122
     US 2003059868      A1   20030327       US 2000-559707   20000427
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(FILE 'HOME' ENTERED AT 15:39:31 ON 15 JUL 2003)

FILE 'MEDLINE, AGRICOLA, CANCERLIT, SCISEARCH, CAPLUS, MEDICONF' ENTERED AT 15:39:42 ON 15 JUL 2003

L1 62547 S EPITHEL? (L) (GENETIC? OR TRANSFORM? OR TRANSFECT?)
L2 1947 S L1 AND RETINA?
L3 1122 S L2 AND PY<=1998
L4 28 S L3 AND SKIN
L5 28 FOCUS L4 1-
L6 1122 FOCUS L3 1-
L7 630 S L3 AND (TRANS? (S) RETINA?)
L8 630 FOCUS L7 1-

=> d an ti so au ab pi l8 1 3 4 8 11 16

L8 ANSWER 1 OF 630 CAPLUS COPYRIGHT 2003 ACS
AN 1995:447746 CAPLUS
DN 122:205973
TI Expression and secretion of **transforming** growth factor-.beta. in **transformed** and nontransformed **retinal** pigment **epithelial** cells
SO Ophthalmic Research (**1994**), 26(6), 361-7
CODEN: OPRSAQ; ISSN: 0030-3747
AU Kvanta, Anders
AB The expression and secretion of different isoforms of **transforming** growth factor-.beta. (TGF.beta.) were examd. in cultured **transformed** and nontransformed human **retinal** pigment **epithelial** (RPE) cells. **Transformed** RPE cells were found to express high levels of TGF.beta.1 mRNA, low levels of TGF.beta.3 mRNA but no detectable TGF.beta.2 mRNA. If the cells were grown under serum-free conditions the expression of TGF.beta. increased. The mRNA expression was accompanied by secretion of TGF.beta.1 (but not TGF.beta.2) protein into the culture media. By comparison, nontransformed RPE cells were found to secrete similar amts. of TGF.beta. as **transformed** cells but predominantly secreted TGF.beta.2. The secretion of TGF.beta. from both **transformed** and nontransformed RPE cells increased if the cells were grown without serum. In conclusion, the results show that TGF.beta. is expressed and secreted by **transformed** and nontransformed human RPE cells and that this expression and secretion are regulated by the presence or absence of exogenous factors.

L8 ANSWER 3 OF 630 CAPLUS COPYRIGHT 2003 ACS
AN 1995:615465 CAPLUS
DN 123:224111
TI .beta.-Galactosidase **transgene** expression in **transplanted** rabbit **retinal** pigment epithelial cells in vivo
SO Graefe's Archive for Clinical and Experimental Ophthalmology (**1995**), 233(4), 220-5
CODEN: GACODL; ISSN: 0721-832X
AU Osusky, Roman; Jiang, Meisheng; Boechi, Ernst R.; Spee, Christine; Ye, Junjie; Ryan, Stephen J.
AB Intraocular transplantation of **genetically** modified cells that release a particular substance could have a major impact on the treatment of various ocular diseases. The authors studied the expression of the reporter gene .beta.-galactosidase (lacZ) in **transplanted** **retinal** pigment **epithelial** (RPE) cells in vivo. RPE cells from pigmented rabbits were transduced with the .beta.-galactosidase gene in a retroviral vector. Cells were then assayed for gene expression and transplanted subretinally into the eyes of New Zealand White rabbits. RPE cells that were transduced with a similar vector without the .beta.-galactosidase gene were used as controls. Rabbits were killed on days 1, 7, and 21 and the eyes processed for TEM. Neomycin-resistant rabbit RPE cells that showed .beta.-galactosidase activity were generated within 2-5 wk. After transplantation, viable RPE cells that expressed the transgene and that phagocytosed rod outer segments were obsd. on days 1, 7, and 21. The results show that generation of **genetically** modified RPE cells is feasible and that the transplanted cells remain viable and continue to express the transgene in the subretinal space of

the host animal for at least 21 days. **Transplantation** of such **genetically** modified RPE cells could provide a new tool for studying **retinal** diseases and, potentially, for correcting metabolic abnormalities in **retinal** degenerations and dystrophies.

L8 ANSWER 4 OF 630 CAPLUS COPYRIGHT 2003 ACS
AN 1994:50998 CAPLUS
DN 120:50998
TI **Transdifferentiation** of adult human pigment **epithelium** into **retinal** cells by **transfection** with an activated H-ras proto-oncogene
SO DNA and Cell Biology (**1993**), 12(8), 667-73
CODEN: DCEBE8; ISSN: 1044-5498
AU Dutt, Kamla; Scott, Mattie; Sternberg, Paul P.; Linser, Paul J.; Srinivasan, Alagarsamy
AB The identification of homologs to viral oncogenes in normal cells coupled with development of techniques for DNA transfer into cells offers a powerful approach to dissect the processes assocd. with differentiation-specific oncogenes. The authors have derived cell lines by **transfection** of viral DNAs and proto-oncogenes into primary **retinal** pigment **epithelial** (RPE) cells. Establishment of cell lines was successfully achieved with the SV40 large T-antigen gene activated form of Harvey (H)-ras proto-oncogene, c-myc, and adenovirus E1A. The cell lines derived using the H-ras oncogene appeared to contain cells with a neuronal phenotype. This feature was not obsd. in cell lines established with the other oncogenes. Characteristically, H-ras-**transfected** cells all exhibited features assocd. with neurons around 10-14 passages. The transdifferentiated cells were biochem. characterized and found to express neuronal markers, such as neurofilament protein and neuron-specific enolases. The specific neuronal changes were restricted to only two primary cultures of RPE derived from carcinoma donors. Although **transdifferentiation** of pigmented cells of iris, or the **retina**, into the lens has been demonstrated, the authors' studies presented in this report provide evidence that RPE cells from adults can **transdifferentiate** into neurons under the influence of a specific oncogene. To the best of the authors' knowledge, this is the first report on transdifferentiation of adult human pigment **epithelium** into a neuronal cell type.

L8 ANSWER 8 OF 630 CAPLUS COPYRIGHT 2003 ACS
AN 1993:622467 CAPLUS
DN 119:222467
TI Sodium-dependent ascorbic and dehydroascorbic acid uptake by SV-40-**transformed retinal** pigment **epithelial** cells
SO Ophthalmic Research (**1993**), 25(2), 100-7
CODEN: OPRSAQ; ISSN: 0030-3747
AU Lam, Kwok Wai; Yu, Hing Sing; Glickman, Randolph D.; Lin, Tommy
AB The present data confirmed previous studies with other cell types that ascorbic acid and dehydroascorbic acid are **transported** through different **transporters** into SV-40-**transformed retinal** pigment **epithelial** cells. These expts. were performed on cells grown on 96-well culture plates. Ascorbic acid was taken up into the cell by a high-affinity transporter with Km = 0.041 mmol/L and a low Vma3x of 2.74 pmol/min/well. Dehydroascorbic acid was taken up by a low-affinity transporter with Km = 5.67 mmol/L; however, the Vmax was 325.5 pmol/min/well. The uptake of both ascorbic acid and dehydroascorbic acid was dependent on the sodium concn. The uptake of ascorbic acid does not involve oxidn.-reaction steps because the uptake of [14C]-ascorbate was unaffected by the presence of an excess amt. of unlabeled dehydroascorbic acid.

L8 ANSWER 11 OF 630 CAPLUS COPYRIGHT 2003 ACS
AN 1998:173158 CAPLUS
DN 128:304701
TI **Transcriptional** regulation of cellular **retinaldehyde** -binding protein in the **retinal** pigment epithelium. A role for the photoreceptor consensus element
SO Journal of Biological Chemistry (**1998**), 273(10), 5591-5598
CODEN: JBCHA3; ISSN: 0021-9258

AU Kennedy, Breandan N.; Goldflam, Steven; Chang, Michelle A.; Campochiaro, Peter; Davis, Alberta A.; Zack, Donald J.; Crabb, John W.

AB Cellular **retinaldehyde**-binding protein (CRALBP) is abundantly expressed in the **retinal** pigment **epithelium** (RPE) and Muller cells of the **retina**, where it is thought to function in retinoid metab. and visual pigment regeneration. Mutations in human CRALBP that destroy retinoid binding have been linked to autosomal recessive retinitis pigmentosa. To identify the DNA elements that regulate expression of the human CRALBP gene in the RPE, transient **transfection** studies were carried out with three CRALBP-expressing human RPE cell culture systems. The regions from -2089 to -1539 base pairs and from -243 to +80 base pairs demonstrated pos. regulatory activity. Similar activity was not obsd. with cultured human breast, liver, or skin cells. Since sequence anal. of the -243 to +80 region identified the presence of two photoreceptor consensus element-1 (PCE-1) sites, elements that have been implicated in photoreceptor gene regulation, the role of these sequences in RPE expression was examd. Mutation of either PCE-1 site significantly reduced reporter activity, and mutation or deletion of both sites dramatically reduced activity. Electrophoretic mobility shift anal. with RPE nuclear exts. revealed two complexes that required intact PCE-1 sites. These studies also identified two identical sequences (GCAGGA) flanking PCE-1, termed the binding CRALBP element (BCE), that are also important for complex formation. Southwestern anal. with PCE-1/BCE-contg. probes identified species with apparent masses near 90-100 and 31 kDa. These results begin to identify the regulatory regions required for RPE expression of CRALBP and suggest that PCE-1-binding factor(s) may play a role in regulating RPE as well as photoreceptor gene expression.

L8 ANSWER 16 OF 630 CAPLUS COPYRIGHT 2003 ACS

AN 1998:148653 CAPLUS

DN 128:253180

TI bFGF **transfected** iris pigment **epithelial** cells rescue photoreceptor cell degeneration in RCS rats

SO Degenerative Retinal Diseases, [Proceedings of the International Symposium on Retinal Degeneration], 7th, Sendai, Oct. 5-9, 1996 (**1997**), Meeting Date 1996, 323-328. Editor(s): LaVail, Matthew M.; Hollyfield, Joe G.; Anderson, Robert E. Publisher: Plenum, New York, N. Y. CODEN: 65SSAH

AU Tamai, M.; Yamada, K.; Takeda, N.; Tomita, H.; Abe, T.; Kojima, S.; Ishiguro, S.-I.

AB The authors could insert rat bFGF-cDNA into a high-expression vector, pCXN2 and **transfected** it into cultured rat iris pigment **epithelial** cells (IPE). They showed high level of expression of mRNA of bFGF in vitro. These gene-modified iris PE were transplanted into the subretinal space of dystrophic RCS rat and could protect photoreceptors from their early death. In the future, this gene regulation technique could be applied for modifying DNA of iris or **retinal** PE and obtaining suitable characteristics for certain therapeutic purposes. Then, they could be transplanted in the subretinal space and prolong the survival period of photoreceptor cells or rescue from apoptosis.

(FILE 'HOME' ENTERED AT 15:39:31 ON 15 JUL 2003)

FILE 'MEDLINE, AGRICOLA, CANCERLIT, SCISEARCH, CAPLUS, MEDICONF' ENTERED AT 15:39:42 ON 15 JUL 2003

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L2         1947 S L1 AND RETINA?
L3         1122 S L2 AND PY<=1998
L4           28 S L3 AND SKIN
L5           28 FOCUS L4 1-
L6         1122 FOCUS L3 1-
L7          630 S L3 AND (TRANS? (S) RETINA?)
L8          630 FOCUS L7 1-
L9            0 S L7 AND (SINGLE CELL)
L10           3 S L7 AND (SUSPENSION OR AGGREGATE)
L11           2 DUP REM L10 (1 DUPLICATE REMOVED)
L12           7 S L8 AND IMMORTAL?
L13           4 DUP REM L12 (3 DUPLICATES REMOVED)
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=> d an ti so au ab pi l13 1-4

L13 ANSWER 1 OF 4 SCISEARCH COPYRIGHT 2003 THOMSON ISI
AN 1998:77761 SCISEARCH
TI Extension of life-span by introduction of telomerase into normal human cells
SO SCIENCE, (**16 JAN 1998**) Vol. 279, No. 5349, pp. 349-352.
Publisher: AMER ASSOC ADVANCEMENT SCIENCE, 1200 NEW YORK AVE, NW, WASHINGTON, DC 20005.
ISSN: 0036-8075.
AU Bodnar A G; Ouellette M; Frolkis M; Holt S E; Chiu C P; Morin G B; Harley C B; Shay J W; Lichtsteiner S; Wright W E (Reprint)
AB Normal human cells undergo a finite number of cell divisions and ultimately enter a nondividing state called replicative senescence. It has been proposed that telomere shortening is the molecular clock that triggers senescence, To test this hypothesis, two telomerase-negative normal human cell types, **retinal** pigment **epithelial** cells and foreskin fibroblasts, were **transfected** with vectors encoding the human telomerase catalytic subunit. In contrast to telomerase-negative control clones, which exhibited telomere shortening and senescence, telomerase-expressing clones had elongated telomeres, divided vigorously, and showed reduced staining for beta-galactosidase, a biomarker for senescence, Notably, the telomerase-expressing clones have a normal karyotype and have already exceeded their normal life-span by at least 20 doublings, thus establishing a causal relationship between telomere shortening and in vitro cellular senescence. The ability to maintain normal human cells in a phenotypically youthful state could have important applications in research and medicine.

L13 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2003 ACS
AN 1997:717995 CAPLUS
DN 128:1694
TI Conditionally **immortalized retinal** cell lines and their therapeutic and investigative uses
SO PCT Int. Appl., 52 pp.
CODEN: PIXXD2
IN Greenwood, John; Adamson, Peter; Lund, Raymond
AB **Immortalized retinal** endothelial or **retinal epithelial** pigmentary cell lines that can be being implanted in the **retina** and can carry a therapeutic substance to the eye and to the central nervous system eye. Such lines can also be used as a model for studying blood central nervous system interfaces. These lines are derived from primary **retinal** endothelial cells or primary **retinal epithelial** cells and are **immortalized** by **transformation** with a temp. sensitive allele of a viral oncogene, and have the morphol. characteristics and the surface antigens of the primary culture from which they were derived. **Retinal** endothelial and **epithelial** cell lines were prepd. from rat **retina** by **transformation** with a temp. sensitive allele of the large T antigen gene of SV40. Implanting these cells into the eyes of Sprague-Dawley did not lead to tumor formation or an immune response.

The cells had the morphol. expected of them in vivo. In rats with **retinal** dystrophy, implanting cells delayed the loss of photoreceptors.

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
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	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE					
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	AU 9727041	A1	19971112	AU 1997-27041	19970418	<--
	AU 725173	B2	20001005			
	EP 833895	A1	19980408	EP 1997-920791	19970418	<--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI					
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	US 6183735	B1	20010206	US 1998-973553	19980122	
	US 2003059868	A1	20030327	US 2000-559707	20000427	

L13 ANSWER 3 OF 4 CANCERLIT DUPLICATE 1
AN 95401616 CANCERLIT
TI SV40-**immortalized** and primary cultured human **retinal** pigment epithelial cells share similar patterns of cytokine-receptor expression and cytokine responsiveness.
SO CURRENT EYE RESEARCH, **(1995 Jun)** 14 (6) 495-503.
Journal code: 8104312. ISSN: 0271-3683.
AU Sippy B D; Hofman F M; He S; Osusky R; Sheu S J; Walker S M; Ryan S J; Hinton D R
AB **Retinal** pigment **epithelial** (RPE) cells produce and respond to a variety of cytokines; however, molecular and biochemical studies are restricted by the limited access to large numbers of pure cells and the variability associated with different donor sources. Despite success in establishing primary human RPE (HRPE) cell cultures, the inability to sustain consistent proliferation rates and morphology over several passages remains a concern. This problem was approached by using an **immortalized** line of simian virus (SV)40 **transformed** fetal HRPE cells (SVRPE). Cytokine production, receptor expression and responsiveness in the SVRPE cell line was analyzed to determine the usefulness of this model for studying HRPE-cytokine interactions. Using reverse **transcriptase** polymerase chain reaction (RT-PCR), HRPE and SVRPE cells demonstrated an identical pattern of interleukin-1 receptor (IL-1R), IL-2R (alpha sub-unit), IL-6R, interferon (IFN)-gamma R and tumor necrosis factor-alpha (TNF)R p55 expression. No amplification products for TNFR p75 or granulocyte/macrophage colony stimulating factor (GM-CSF)R were demonstrated in either population. IFN-gamma stimulation induced surface human leukocyte antigen (HLA)-DR in both SVRPE and HRPE, while TNF treatment induced surface expression of intercellular adhesion molecule (ICAM)-1 on SVRPE and upregulated ICAM from basal levels on HRPE. Both cell types showed amplification products for interleukin (IL)-1 beta, IL-6 and **transforming** growth factor (TGF)-beta 1 using RT-PCR. The bioassays demonstrated that both populations of unstimulated cells constitutively secrete very low levels of TGF-beta and no IL-6.(ABSTRACT TRUNCATED AT 250 WORDS)

L13 ANSWER 4 OF 4 MEDLINE DUPLICATE 2
AN 90206621 MEDLINE
TI Establishment of human **retinal** pigment epithelial cell lines by oncogenes.
SO ONCOGENE, **(1990 Feb)** 5 (2) 195-200.
Journal code: 8711562. ISSN: 0950-9232.
AU Dutt K; Scott M; Del Monte M; Agarwal N; Sternberg P; Srivastava S K; Srinivasan A
AB The primary human **retinal** pigment **epithelial** cells were **transfected** with oncogenic sequences derived from viruses and cellular homologues of retroviral oncogenes 'protooncogenes' linked to simian virus 40 (SV-40) and retroviral promoters. Foci of cells were noted between 2 to 4 weeks after **transfection**. Individual colonies of cells were expanded from cultures **transfected** with SV-40 virion DNA, SV-40 large T antigen gene, Ha-ras oncogene, human and

mouse c-myc and adenovirus E1A gene. Established cell lines tested were positive for the specific oncogene sequences by Southern hybridization and also expressed the protein as assayed by immunofluorescence and immunoblot analysis. Cell lines established with SV-40 large T antigen, and SV-40 virion DNA, exhibited **epithelioid** morphology up to the 25th passage and later became more rounded. However, all cell lines established with other oncogenes continued to retain **epithelial** morphology. Functional analysis of the cell lines demonstrated the presence of polarity and the ability to phagocytize rod outer segments, characteristics of **retinal** pigment **epithelial** cells.
The use of oncogenes with **immortalization/transformation** potential may allow the establishment of cell lines from ocular tissues for analysing the biochemical basis of a disease like retinitis pigmentosa.